Abstract

This paper presents an efficient approach for moving objects detection and shadow removal from color videos obtained using stationary camera. A background subtraction technique based on modified adaptive GMM has been proposed for detecting moving objects. Speed-up techniques have also been applied to enhance the computational efficiency of the algorithm. Then, a robust algorithm for shadow removal is used to remove cast shadows and ghosts. Foreground is reconstructed using graph cut based cleaning and non-recursive blob finding. Comparative experimental results demonstrate that proposed approach performs better in comparison to other state-of-the-art algorithms.

References


Stephen J. McKenna, Sumer Jabri, Zoran Duric, Azriel Rosenfeld, Harry Wechsler, Tracking Groups of People, Computer Vision and Image Understanding, Volume 80, Issue 1, October 2000, Pages 42-56.


Index Terms

Computer Science

Artificial Intelligence
Keywords
Moving Object Detection; Background Subtraction; GMM; Shadow Removal; Color Discrimination; Graph Cut.